

STUDIES IN NORTH AMERICAN PERONOSPORALES—VII. NEW AND NOTE-WORTHY SPECIES

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PERONOSPORA GRISEA Unger

This is one of the rarer members of the genus, at least in America. It is confined to various species of *Veronica* in the northern portion of the United States and Canada, as well as in Europe. It was with considerable interest that this species was found in the field last spring near Carmel, Indiana, where in April it was very abundant on the young plants of *V. arvensis* L., causing a pronounced and conspicuous yellowing of the infected leaves. It persisted through May, and during the latter month it was found sparingly in the same locality on *V. peregrina* L. On this host, the surface discoloration was red, very similar to that caused by the work of aphids. In this connection it might be of interest to note that in the case of other species of *Peronospora* which normally cause a yellowish discoloration of the host, especially *P. Polygoni* Thüm., this was of a decided reddish cast during the cold, wet weeks of spring. In early June, the normal color was the prevalent one.

PERONOSPORA SEYMOURII Burrill

This species was abundant on *Houstonia minor* (Michx.) Britton at Iowa City, Iowa, in April, 1915. So far as the writer knows, but two previous collections have been recorded. The type was collected in Union county, Illinois, by Prof. Seymour, the other collection being made in Alabama by Dr. Underwood.¹ In the Iowa material, the oöspores are produced abundantly in the fruits of the host, causing a slight hypertrophy and a decided purplish color.

¹ Underwood, Bull. Torrey Club 24: 83. 1897.

Rhysotheca Acalyphae sp. nov.

Hypophyllous, forming a dense or very sparse, whitish growth on the host, epiphyllous discoloration prominent, yellowish to dark-brown, appearing to cause dead spots on the leaves, often accompanied by a pronounced tinge of red on the under side of the leaf; conidiophores solitary or only 2 or 3 from a stoma, $300-500 \times 5-7 \mu$, 4-5 times branched, forming a loose, open head of about $\frac{1}{2}$ to $\frac{1}{3}$ the total height, branches elongate, straightish, branchlets sometimes at a very small angle, ultimate branchlets straight, slightly flexed, short, 4-10 μ long, more or less conic and broadly truncate; conidia brownish, ovoid to globose, $12-22 \times 10-16 \mu$; oöspores not seen.

The type on *Acalypha virginica* L., Madison, Wisconsin, Sept. 30, 1915, *T. T. Davis*.

This species is not to be confused with any other on euphorbiaceous hosts, as the others are all undoubted members of the genus *Peronospora*. Its nearest ally is *R. illinoisensis* (Farlow) Wilson, from which it differs in its more pronounced discoloration of the host; the larger conidiophores, which branch more; and the shorter apical branchlets. The conidia are very similar, both in size and form. It is also quite similar to *R. australis* (Speg.) Wilson, from which it differs in having more delicate conidiophores and larger conidia. The apparent dead spots on the host are rather remarkable, as they are by no means common in this group of fungi.

For those who follow Saccardo, this species may be designated as **Plasmopara Acalyphae** Wilson.

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